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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/840,947	04/21/1997	EDWARD W. LIU	30454-21	2678
24319	7590	10/03/2003	EXAMINER	
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 LEGAL MILPITAS, CA 95035			LE, DINH THANH	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

08/840,947

Applicant(s)

LIU, EDWARD W.

Examiner

DINH T. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-16 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4,6,11-13,20-26 and 28 is/are allowed.
- 6) ☒ Claim(s) 7,8,10,14,16,27 and 29 is/are rejected.
- 7) ☒ Claim(s) 9 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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NON-FINAL REJECTION

The prior art found necessitated a new ground of rejection as below:

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 9 and 27 are rejected under 35 USC 102(a) as being anticipated by Tarasawa (JP815057).

Figure 5 of Tarasawa discloses a noise canceller circuit comprising a first circuit (61), a second circuit (62), a signal supplying circuit (71) and a subtractor (63).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 10 are rejected under 35 USC 103 (a) as being unpatentable over Tarasawa (JP815057).

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Figures 1-5 of Tarasawa disclose a noise canceller circuit with all of the limitations of the claimed invention but does not disclose that the subtractor comprising a half circuit which inputs a signal having an input amplitude and outputs a signal at one-half the input amplitude. However, the employing the subtractor circuit comprising a half circuit is notoriously well known in the art as disclosed on lines 22-26, page 6, in the present specification, and is considered to be a common practice for an engineer. Lacking of showing any criticality, it would have been obvious to a person having skill in the art to employ the subtractor having a half circuit in the circuit of Tarasawa at the time of the invention.

With regard to claim 10, a skilled artisan recognizes that all components in Figure 5 of Tarasawa can be implemented on an integrated circuit for purpose of reducing size. Thus, implementing the circuit of Tarasawa on an IC would be obvious and is considered to be a matter of a design expedient for an engineer.

Claims 14, 16 and 29 are rejected under 35 USC 103 (a) as being unpatentable over Mine et al (JP 2104037).

Mine et al disclose a noise canceller circuit in Figure 1 comprising a first circuit (2), a second circuit (3) for generating a output signal which is results in a null output, a subtractor (5) for combining the output of the first circuit and the second output but does not disclose the combination step including the step of inputting a signal having an input amplitude and outputting the signal at one half the input amplitude. However, the employing the subtractor circuit comprising a half circuit is notoriously well known in the art as disclosed on lines 22-26, page 6, in the present specification, and is considered to be a common practice for an engineer. Lacking

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of showing any criticality, it would have been obvious to a person having skill in the art to employ the subtractor having a haft circuit in the circuit of Mine at the time of the invention.

Response to Applicant 's Arguments

The applicant's argument that Tarasawa does not show the digital circuit located proximately the first circuit and the second circuit is persuasive.

The applicant argues that Tarasawa does not disclose the input signal of the second circuit is an inversed signal of the first input signal. The argument is not persuasive because this limitation is shown in Figure 5 of Tarasawa as discussed above.

Allowable Subject Matter

Claims 1, 3, 4, 6, 11-13 and 20-26 are allowed because the prior art does not disclose the signal supply circuit and the output signal of the second circuit being a null output signal.

Claims 9 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claims would be allowable because the prior art of record does not show the digital circuit located proximately the first and second circuit.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dinh Le whose telephone number is (703) 305-3790.

The examiner can normally be reached on Monday to Friday from 7:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Dinh T. Le', with a long horizontal flourish extending to the right.

**DINH T. LE
PRIMARY EXAMINER**